

Claims

1. A powder composition for paper manufacturing, comprising a hydrophobic organic compound (A) to be used as a paper manufacturing agent and an emulsifying and dispersing agent (B), wherein the powder composition has an average particle diameter of 0.1 to 2,000 μm , and wherein the hydrophobic organic compound (A) is at least one compound selected from the group consisting of the following groups (i) to (viii), and mixtures thereof:
- (i) organopolysiloxane compounds;
 - (ii) amine compounds;
 - (iii) amineacid salt compounds;
 - (iv) quaternary ammonium compounds;
 - (v) imidazole compounds;
 - (vi) hydrocarbon compounds;
 - (vii) alcohol compounds; and
 - (viii) at least one compound having a carbonyl group and an alkyl group in a molecule and selected from the group consisting of the following groups (viii-a) to (viii-f), and mixtures thereof:
 - (viii-a) aliphatic acids or their addition products of alkylene oxide having 2 to 4 carbon atoms;
 - (viii-b) esters of aliphatic acids and alcohols or their addition products of alkylene oxide having 2 to 4 carbon atoms;
 - (viii-c) aliphatic acid amides or their addition products of alkylene oxide having 2 to 4 carbon atoms;
 - (viii-d) aliphatic acid amideamines or their addition products

of alkylene oxide having 2 to 4 carbon atoms;

(viii-e) rosin; and

(viii-f) alkenylsuccinic acids.

2. The composition according to claim 1, wherein the composition further comprises water-soluble saccharides (C).

3. The composition according to claim 1, wherein the hydrophobic organic compound (A) is a bulking agent.

4. The composition according to claim 1, wherein the emulsifying and dispersing agent (B) is a polymer compound having at least one or more a cationic group.

5. A method of producing a pulp sheet, comprising adding the powder composition for paper manufacturing according to claim 1 to a pulp slurry or adding a dispersion of the powder composition in water to the pulp slurry.

6. A bulking agent for paper comprising an ester compound (α) of a polyhydric alcohol and fatty acid and having an esterification ratio of OH of the polyhydric alcohol per 1 mole in a range of 10 to 95 % by equivalent, HLB 1 to 14, and a melting point 100°C or lower and a copolymer (β) comprising composing units derived from at least one kind of non-ionic monomers having a dissolution parameter of 20.5 (MPa)^{1/2} or lower and at least one kind of cationic monomers, wherein the content of (α) in the total of (α) and (β) is 80 to 99.9% by weight.

7. A bulking agent for paper comprising an ester compound (α) of a polyhydric alcohol and fatty acid and having an esterification ratio of OH of the polyhydric alcohol per 1 mole in a range of 10 to 95 % by equivalent, HLB 1 to 14, and a melting

point 100°C or lower and a copolymer (β) comprising composing units derived from at least one kind of a non-ionic monomer having a dissolution parameter of $20.5 \text{ (MPa)}^{1/2}$ or lower and at least one kind of cationic monomers, wherein the contents of (α) and (β) are 80 to 99.9% by weight for (α) and 0.1 to 20% by weight for (β).

8. The bulking agent for paper according to claim 7, wherein the ratios (on the basis of raw materials) of the composing unit of the copolymer (β) are 0.5 to 50% by mole of a component unit derived from nonionic monomer having a dissolution parameter of $20.5 \text{ (MPa)}^{1/2}$ or lower and 50 to 95.5% by mole of a component unit derived from the cationic monomer.

9. The bulking agent for paper according to claim 7, wherein the agent is in an emulsion state.

10. A method of producing a bulk sheet, comprising adding the bulking agent for paper according to claim 7 to a pulp slurry.

11. A paper manufacturing chemical agent particle, comprising an oil chemical agent for paper manufacturing in the form of oil droplets and enclosed in a water-soluble solid matrix in a dispersed state.

12. The paper manufacturing chemical agent particle according to claim 11, wherein the agent further comprises an emulsifying substance.

13. The paper manufacturing chemical agent particle according to claim 11, wherein the average oil droplet diameter is in the range of 0.1 to 50 μm on the basis of volume.

14. The paper manufacturing chemical agent particle

according to claim 11, wherein the oil chemical agent for paper manufacturing is used as a bulking agent.

15. The paper manufacturing chemical agent particle according to claim 11, wherein the emulsifying substance has cationic property in water.

16. A method of producing a paper manufacturing chemical agent particle, comprising dissolving a water-soluble solid matrix forming agent in water at a temperature equal to or higher than the melting point of an oil chemical agent for paper manufacturing; optionally adding the oil chemical agent for paper manufacturing and an emulsifying substance; emulsifying the oil chemical agent for paper manufacturing for obtaining an emulsion; and drying the emulsion at a temperature equal to or higher than the melting point of the oil chemical agent for paper manufacturing.

17. The method according to claim 16, wherein the drying method is spray drying.

18. The method according to claim 16, wherein the emulsifying substance has cationic property in water and liquid diluted with water for the emulsion so as to have a solid content of 10% by weight has a pH of 2 to 6.

19. Use of the powder composition according to claim 1 as a paper manufacturing additive.